

GENERIC · CHASSIS

C050E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C050E

Left Rear Wheel Speed Sensor A Circuit Low

C050E means the antilock braking system (ABS) module has detected a low-voltage condition on the left rear wheel speed sensor A circuit, which is the primary sensor signal used for that wheel. The computer expects a rapidly switching voltage or current signal as the wheel turns, and it is seeing a signal that stays below the normal threshold or is intermittently dropping out.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- ABS warning light illuminated on the dashboard
- Traction control or stability control warning light also on
- Often no symptoms besides the warning light, with normal brake pedal feel
- ABS may deactivate, allowing wheel lockup during hard braking
- Speedometer or odometer may read erratically if the sensor signal is used for vehicle speed
- Intermittent warning light that comes and goes over bumps or during turns

Common causes, most likely first

- 1 Damaged or chafed wiring harness at the left rear wheel, often from road debris or suspension movement
- 2 Corroded or loose electrical connector at the sensor or where the harness meets the body
- 3 Failed left rear wheel speed sensor due to internal open circuit or contamination
- 4 Debris, metal shavings, or rust buildup on the sensor tip or tone ring
- 5 Damaged or cracked tone ring (reluctor wheel) on the left rear hub or axle
- 6 Excessive wheel bearing play or hub runout altering the sensor air gap
- 7 Faulty ABS control module, though this is less common than sensor or wiring faults



How to diagnose and fix it

- 1 Inspect the left rear wheel speed sensor and its wiring for visible damage, chafing, or corrosion, and repair any obvious faults
- 2 Clean the sensor mounting area and tone ring of metal debris, rust, or mud, then clear the code and test-drive
- 3 Measure the sensor circuit resistance and compare it to the manufacturer's specification, looking for an open or short
- 4 Back-probe the sensor connector and check for a low-voltage signal while spinning the wheel by hand, using a multimeter or oscilloscope
- 5 Check the tone ring for cracks, missing teeth, or runout, and replace the hub or axle if the ring is damaged
- 6 Verify the sensor air gap and mounting condition, and replace the sensor if the signal remains low or absent
- 7 If all sensor and wiring checks pass, test the ABS module connector and circuit for continuity and consult factory diagnostics before replacing the module

What a low signal really tells you

- A low signal code often comes from a sensor that is still functioning but has a poor ground or a corroded connector pin, so replacing the sensor first can waste money.
- Metal debris stuck to the sensor magnet or tone ring is a frequent cause that is easy to miss during a visual inspection because it can look like a normal sensor tip.
- The left rear sensor is commonly used as a reference for vehicle speed, so a low signal can affect the speedometer and transmission shift points even when the ABS light is the only warning.
- A failing wheel bearing on the left rear can change the air gap and produce a low signal without any play being obvious by hand, so always check hub runout.
- The code can set intermittently from a harness that rubs only during suspension travel, so a static meter test may pass while the fault is still present on the road.

Can I keep driving with C050E?

The vehicle remains safe to drive under normal conditions because the base brakes still work, but the ABS and traction control may be disabled. Avoid hard braking or slippery conditions until the fault is repaired, and address the issue promptly to prevent the warning from masking a more serious brake problem.

Tools that help

- OBD-II scan tool with ABS capability
- Digital multimeter
- Oscilloscope (optional but helpful for signal analysis)
- Jack and jack stands
- Basic hand tools and wire repair kit



Reading C050E

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Brakes, steering and suspension.
- 0E** The exact fault within that area.

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **C0040** Left Rear Wheel Speed Sensor Circuit · **C050D** Left Rear Wheel Speed Sensor A Range/Performance · **C050F** Left Rear Wheel Speed Sensor A Circuit High · **C0510** Hill Hold Function Disabled

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c050e/>

